

### Welcome!

We greatly appreciate your purchase of the CP452-009. We are sure you will find it reliable and simple to use. Superior performance for the right price, backed by solid technical and customer support is what ALTINEX has to offer.

We are committed to providing our customers with Signal Management Solutions® to the most demanding audiovisual installations at competitive pricing and we welcome you to join the ranks of our many satisfied customers throughout the world.

### 1. Precautions and Safety Warnings

Please read this manual carefully and heed all warnings. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your CP452-009 and to prevent fire and shock hazards.

#### 1.1 General

- There are no user serviceable parts inside. Qualified ALTINEX service personnel must perform all service on the CP452-009.

#### 1.2 Installation Precautions

- Place the CP452-009 in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose to water or moisture. Do not place in direct sunlight, near heaters, or heat-radiating appliances, or near any liquid. Direct sunlight, smoke, or steam can harm internal components.
- Handle the CP452-009 carefully. Dropping or jarring can cause damage.
- Do not pull any cables that are attached to the CP452-009.
- If not used for an extended period, disconnect from AC power.

### 1.3 Cleaning

- Unplug the CP452-009 adapter before cleaning and clean only with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean the unit. Do not open the unit to clean.

### 1.4 FCC Notice

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions found herein, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

## 2. Installation Procedures

### Preparation

- Step 1. Make a list of the cabling requirements for the end-user application. What cable types are needed? For example: CAT-5 for network connection, RS-232 for device control, power, VIDEO, USB, etc.
- Step 2. Determine the best location for the touch panel then prepare the cables based on type and length.

### Installation - Hardware

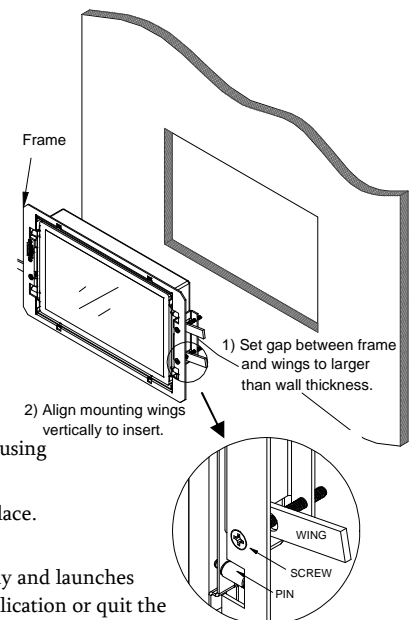
- Step 3. Use the cutout template provided with the panel to make the opening in the wall. Test fit the panel into the wall opening. Make sure the mounting wings are aligned vertically and the gap between the frame and the wing is a little more than the wall thickness before fitting the panel into the wall.
- Step 4. Remove the panel and set it aside. Route all cables needed for the installation through the wall opening, into the wall, and to the proper source/destination. For power, only use the power adapter provided.
- Step 5. Once the cables are routed, connect the power cable to the panel and verify the panel turns on automatically. After the panel boots, disconnect the adapter from AC power.
- Step 6. Connect the remaining cables to the panel and insert the panel into the wall. Be careful not to bend the cable connectors that are attached to the panel.
- Step 7. Make sure the wings are inside and behind the wall material. The panel fastens directly to the wallboard using the attached, captive hardware. Tighten the mounting screws until each wing firmly "grabs" the wall.
- Step 8. Align the clips on the inside of the bezel with the mounting pins inside the frame and press firmly into place.

### Upload Application - Software

- Step 9. Connect the power adapter to AC power and wait for the panel to "boot" up; the panel boots automatically and launches the AVSnap® initial setup application displaying system details. Follow the instructions to upload the application or quit the setup application and use a USB drive to install the application.
- Step 10. Once all software has been installed, close all open applications and put a shortcut to the application in the startup folder. Run the COMMIT batch file located on the desktop and restart the computer from the "Start" menu.
- Step 11. Verify the panel boots up and automatically launches the control software. The unit is now operational.

## 3. Limited Warranty/Return Policies

Please see the ALTINEX website at [www.altinex.com](http://www.altinex.com) for details on warranty and return policies.



#### 4. Technical Specifications

Specifications are subject to change. See [www.altinex.com](http://www.altinex.com) for up-to-date information.

Features/Description	CP452-009
Details	
LCD Size	8.9 in
LCD Resolution	WSVGA 1024x600
LCD Colors	262k
CPU	Intel® Atom™ N270 1.6 GHz
RAM	1 GB
Solid State Drive	CF Type II
External Connections	
+12 VDC In	DC Jack (1)
USB 2.0	Type A F (4)
RS-232	DB9 M (2)
LAN	RJ-45 F (2)
Video Out (RGBHV)	15-PIN HD F (1)
Audio Out	3.5 mm F (1)
Mic In	3.5 mm F (1)
Rear Mounting Holes *	3x3 in (75x75 mm)
Agency Approval	
EMC	CE, FCC
Safety (power adapter)	UL/cUL
Accessories Included	
Power Adapter+ AC Cord	+12 VDC, 5 A
Cutout Template	Paper Template for Wall Cutout
USB Panel Mount Cable	Type A F-M
Optional Accessories	
White Bezel (aluminum)	AC407-101
Black Bezel (aluminum)	AC407-102
Silver Bezel (aluminum)	AC407-103
50 ft Power Extension	CB142-050

Table 1. CP452-009 General

Mechanical	CP452-009
Material/Color	Steel/Black
Frame H x W x D **	6.2 x 10.5 x 0.06 in (157 x 267 x 2 mm)
Body H x W x D **	4.6 x 8.3 x 1.5 in (117 x 210 x 38 mm)
Bezel H x W x D **	6.5 x 11.2 x 0.3 in (164 x 284 x 6 mm)
Touch Panel Weight	2.9 lb (1.3 kg)
System Shipping Weight (approximate)	5.5 lb (2.5 kg)
T° Operating	0-40°C
Storage T° Min/Max	-10°C / 50°C
Humidity	10-90% non-condensing
MTBF (calculations)	40,000 hrs (min.)

Table 2. CP452-009 Mechanical

Electrical	CP452-009
External Connections	
USB 2.0 Voltage	4.4-5.2 VDC
USB 2.0 Current	100 mA max.
LAN Speed	1000 Mbps (GbE)
RS-232 Input Range	+/-15V
Audio Line Out	1 Vp-p nominal
Video Out	RGB Analog 0.7 Vp-p nominal
	HV Sync TTL
Power Consumption <i>(maximum from adapter)</i>	
+12VDC	60W max.

Table 3. CP452-009 Electrical

\* Does not apply to wall installations.

\*\* See application diagrams section for detailed views.

## 5. About Your CP452-009 MultiTouch Widescreen Panel

The CP452 touch screen controller is specifically designed for in-wall installations. It is ideal for a wide variety of control applications. Each controller is a computer running Windows XP Embedded that includes these key features:

- Touch Screen
- COM port and 2 LAN ports
- 4 USB ports
- AVSnap™ Professional AV System Integration Tool

The CP452 panel senses “touch” from a finger, stylus, pen, pencil, gloved finger, or other tool. The touch screen is very accurate and responsive to the operator's input. The CP452 incorporates effortlessly into any AV system.

The COM port can control virtually any serial device using standard RS-232 communication. The two LAN ports allow connectivity to a local area network or a direct connection to another TCP/IP device. For added flexibility, consider the ALTINEX AC301-201 TCP/IP to RS-232 Adapter. This adapter allows RS-232 communication through a standard LAN connection.

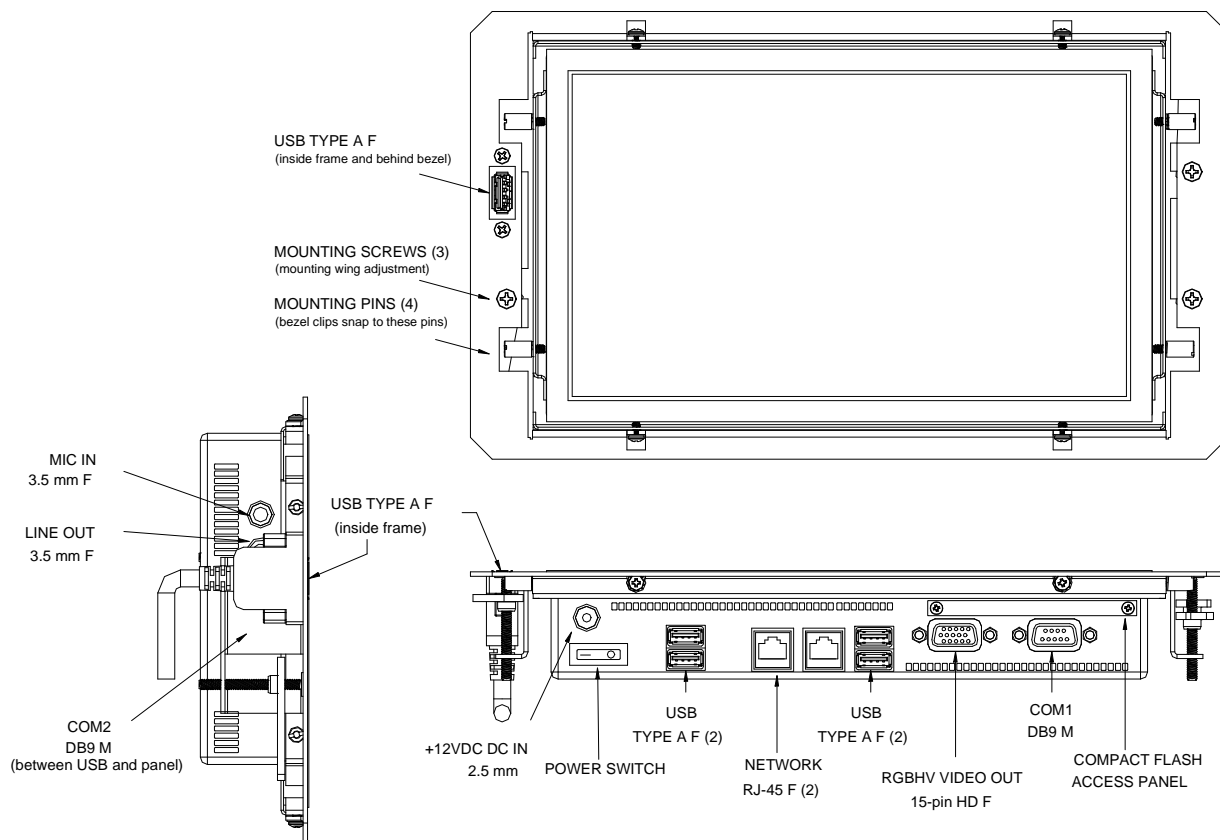
The AC301-201 has both serial (DB9) and network (RJ-45) connections. The AC301-201 connects to a serial device using its DB9 connection, and to the LAN using standard network cable. AVSnap, or other RS-232 communication software, can then be used to control the serial device using the IP address of the adapter in place of the COM port. In this way, a single controller can be used to control any number of serial devices using their unique IP address.

The CP452 is designed for in-wall mounting. A paper template is provided for an accurate wall cutout. Simple blind screws provide hassle free installation.

AVSnap software is installed on the CP452 and provides a complete design environment for developing simple to sophisticated graphical user interfaces (GUIs) and control software. AVSnap is pre installed on each CP452 making it easy to integrate into any control environment. Design high-quality GUIs with minimum effort by way of user-friendly toolbars for buttons, volume controls, progress bars, and much more. AVSnap incorporates a simple programming language with an organized interface that makes even complex programming code easy to read and maintain.



*Shown here with a silver bezel.*



## 6. Application Diagrams

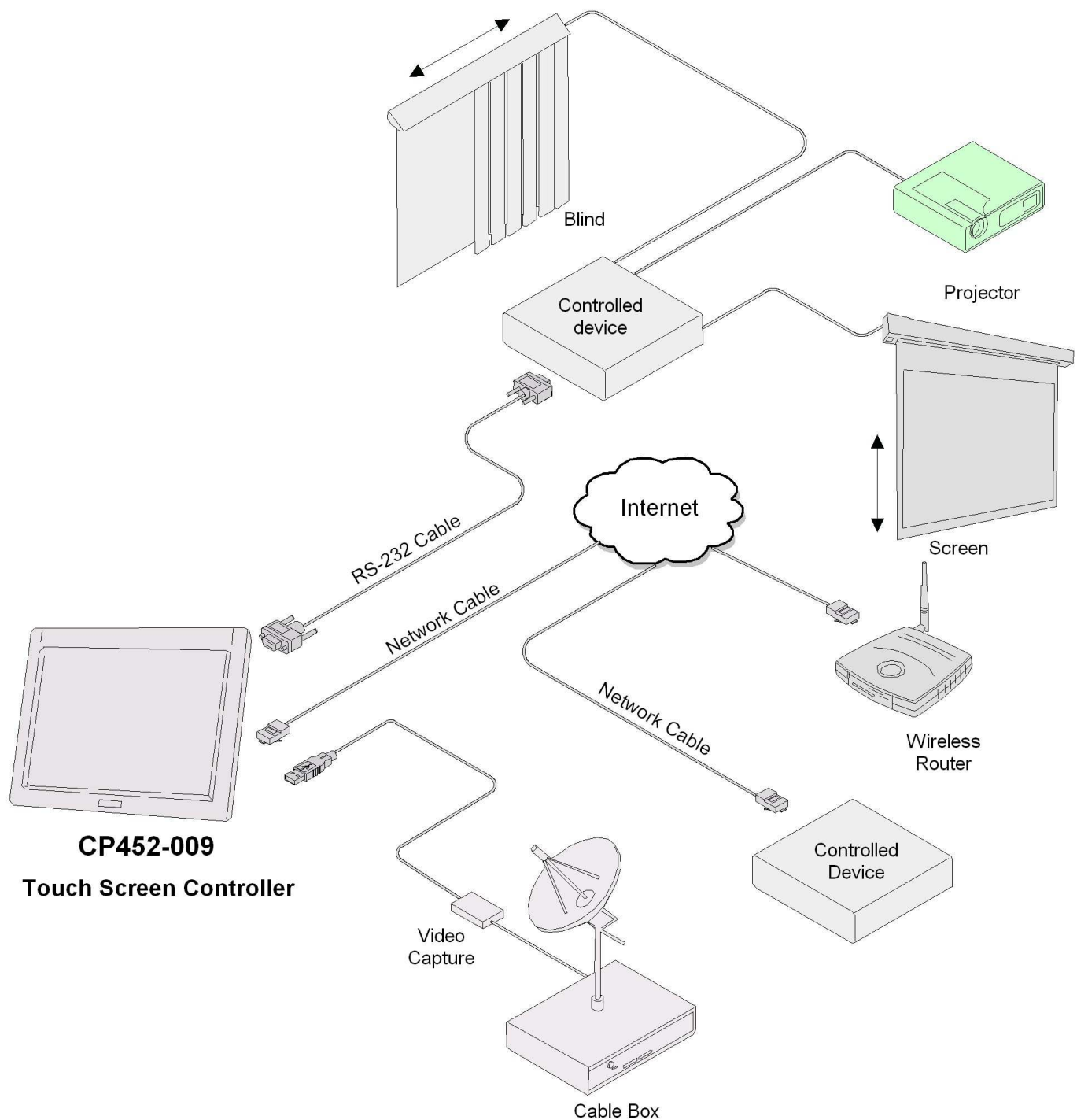
Diagram 1: Typical Setup

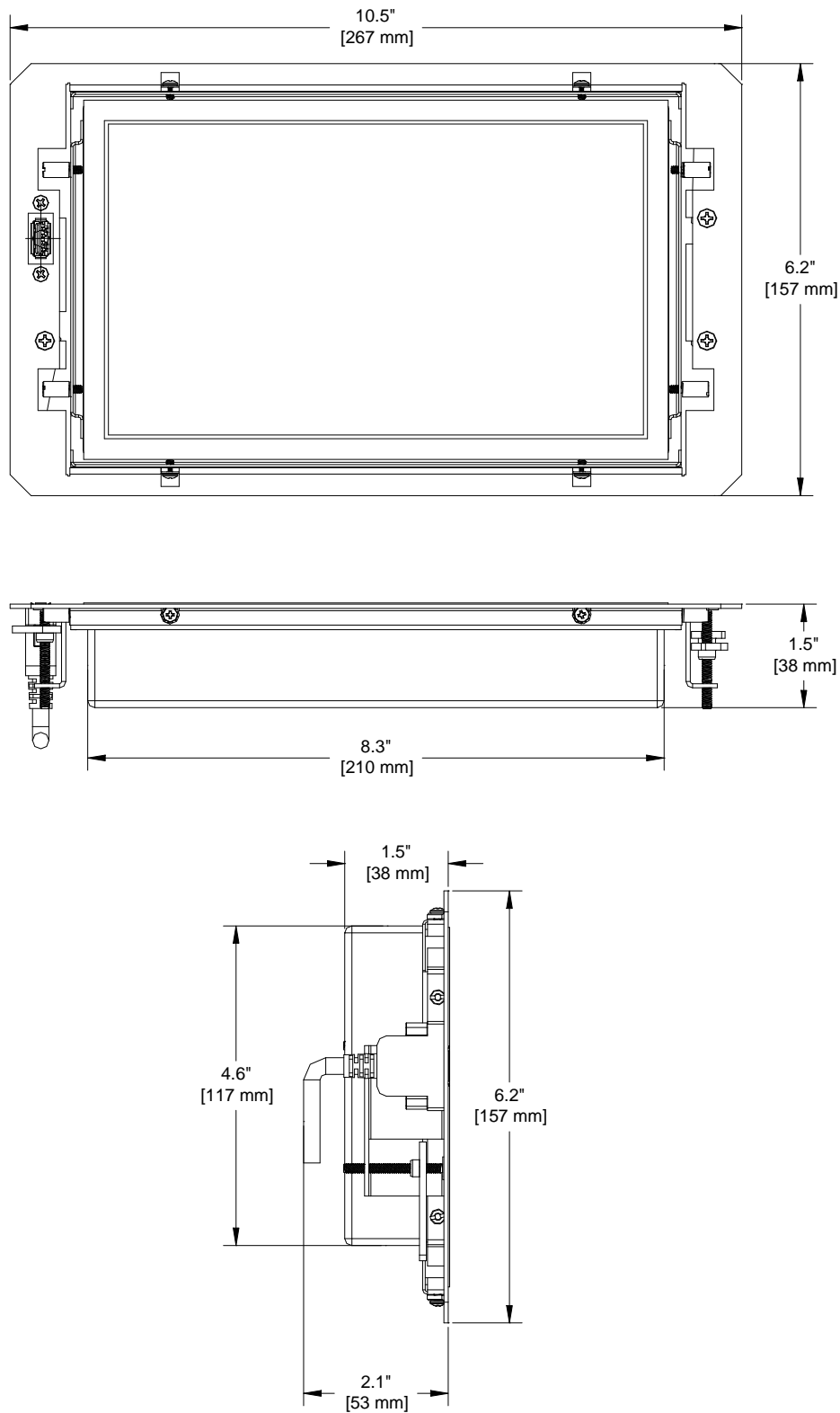
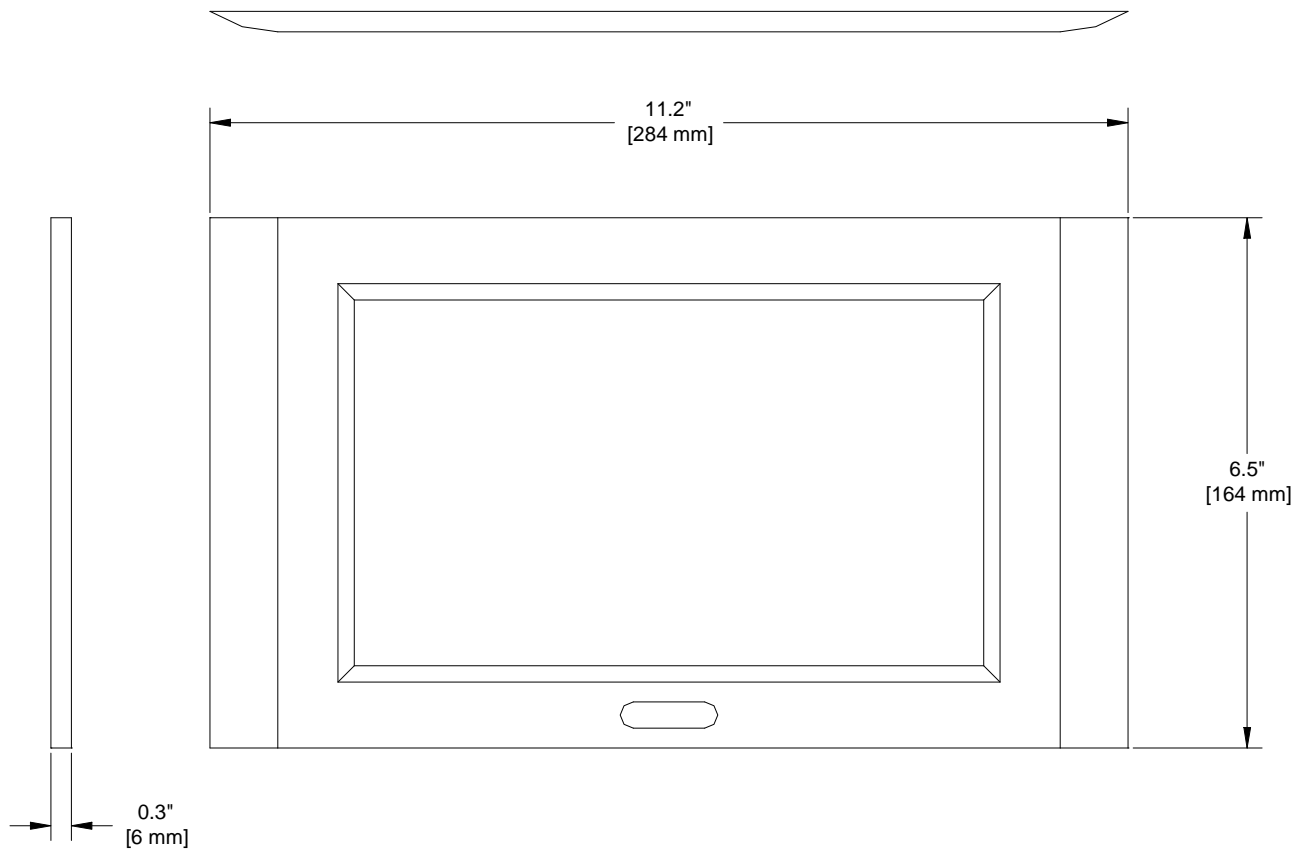
Diagram 2: Dimensions

Diagram 3: Bezel Dimensions

## 7. Operation

The CP452 is designed for use in a fixed application where the system boots up directly into the user application and does not allow access to the operating system. The application and GUI interface are normally created using a standard desktop computer and then installed onto the CP452 using a USB drive or network connection.

Once set-up, the CP452 will work trouble free without user intervention.

### 7.1 Power Up and Shutdown

The CP452 boots automatically as soon as power is applied. There is no need to press the power switch on the bottom of the unit. In most installations, the system boots directly into the end-user application.

The CP452 can be powered down using the shutdown/power off option from the START menu, or directly from an AVSnap application using the "App.Shutdown" function.

### 7.2 Preparing Control Software

It is not recommended to design and create control software directly on the CP452. In most situations, it is easier and faster to write and debug control software on a standard desktop computer and then transfer the completed file when ready. However, if the CP452 needs to be programmed "in place", use an external USB keyboard and mouse. Simply plug in the devices and wait for the system to recognize the new hardware and load the drivers.

Remember, the CP452 employs the Enhanced Write Filter (EWF) to protect the contents of the internal drive. Read the next section carefully before attempting to install, create, or edit any data files or applications on the CP452. If not executed properly, changes will be lost.

The best way to create and edit on the CP452 is to use a USB drive plugged into the bottom of the unit and make changes directly to the USB drive then copy the final files to the CP452's "C" drive.

### 7.3 Installing Files and Applications

The CP452 utilizes the Windows XP Embedded EWF to protect the CP452's internal memory from accidental or unauthorized changes. The EWF appears to read and write from the internal drive, but executes everything in RAM. All changes WILL be lost after reset or shutdown unless the changes are committed to memory. Three batch files are provided for direct control over the EWF and should be used cautiously.

#### 1. COMMIT.BAT – Write to hard drive

This batch file resides on the desktop and writes the RAM data onto the hard drive for permanent storage while EWF is enabled. Close open applications before running this batch file or the changes may not be committed to memory.

#### 2. ENABLE.BAT – Turn on EWF

This batch file resides in the root directory and turns on the EWF. In this mode, no changes made to the system are saved unless the COMMIT batch file is executed. This is the default condition for all CP452s.

#### 3. DISABLE.BAT – Turn off EWF

This batch file resides in the root directory and turns off the EWF. In this mode, the system operates like a normal computer reading and writing data directly to the hard drive.

#### WARNING

When the EWF is turned off, the user MUST shutdown the computer properly. If power is turned off or lost without executing the normal shutdown procedure, data can be lost, or corrupted, including the BIOS and operating system (OS). If the BIOS or OS are damaged, the entire system can become unusable.

#### 7.3.1 Installing Large Files

If the application or file is too large for the available RAM, the operation will be aborted. Use the disable batch file before installing the software. Make sure to reset the EWF when done.



## 8. Troubleshooting Guide

We have carefully tested and have found no problems in the supplied CP452. However, we would like to offer suggestions for the following:

Symptom	Resolution
Power Is Not On	<ol style="list-style-type: none"><li>1. Verify the adapter is plugged into a working AC outlet and that the outlet has power. Use only the AC adapter that was shipped with the unit.</li><li>2. Verify the DC power plug coming from the AC adapter is plugged all the way into the CP452.</li><li>3. If there is AC power to the adapter and the panel still does not turn on, the CP452 or the power adapter may require service; call ALTINEX at (714) 990-2300.</li></ol>
Software/Files Are Missing	<ol style="list-style-type: none"><li>1. Always make changes to the CP452 then run the COMMIT batch file on the desktop before shutting down or restarting the CP452. A valid shutdown (Windows shutdown or restart) is needed to validate and make the changes permanent. If power is turned off or lost with running a proper shutdown, all changes are lost.</li><li>2. Any files that are open for editing must be closed before executing the COMMIT batch file. For best results:<ol style="list-style-type: none"><li>a. Close all applications and files.</li><li>b. Run the COMMIT batch file.</li><li>c. Restart the panel from the Windows Start menu.</li></ol></li></ol>